EPA Superfund Record of Decision:

LETTERKENNY ARMY DEPOT (PDO AREA) EPA ID: PA2210090054 OU 01 FRANKLIN COUNTY, PA 08/02/1991 Text:

06/28/92

DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH

EDWIN B. ERICKSON DATE: 08/02/91 REGIONAL ADMINISTRATOR
US ENVIRONMENTAL PROTECTION AGENCY, REGION III

#SNLD

SITE NAME, LOCATION AND DESCRIPTION.

THIS RECORD OF DECISION (ROD) IS FOR FINAL ACTION AT THE PROPERTY DISPOSAL OFFICE (PDO) AREA OPERABLE UNIT ONE WITHIN LETTERKENNY ARMY DEPOT (LEAD). LEAD, FORMERLY KNOWN AS LETTERKENNY ORDNANCE DEPOT, IS LOCATED IN SOUTH-CENTRAL PENNSYLVANIA IN THE CENTRAL PORTION OF FRANKLIN COUNTY, IN LETTERKENNY, GREENE, AND HAMILTON TOWNSHIPS, ABOUT 5 MILES NORTH OF CHAMBERSBURG (FIGURE 1). CHAMBERSBURG IS THE NEAREST POPULATION CENTER, WITH ABOUT 15,000 PERSONS. THE INSTALLATION OCCUPIES 7,899 HECTARES (19,520 ACRES) SITUATED IN THE WESTERN SIDE OF THE CUMBERLAND VALLEY, WHICH IS CHARACTERIZED BY GENTLY ROLLING TERRAIN UNDERLAIN BY FOLDED AND FAULTED GEOLOGIC FORMATIONS. APPROXIMATELY 5,600 CIVILIANS AND 140 MILITARY PERSONNEL ARE EMPLOYED AT LEAD, AND ROUGHLY 1,862 BUILDINGS AND 1,096 MILES OF ROAD ARE ON THE INSTALLATION.

THE PROPERTY DISPOSAL OFFICE (PDO) AREA OCCUPIES ROUGHLY 250 ACRES IN THE SOUTHERN SECTION OF THE DEPOT (FIGURE 2). THE PDO AREA IS ONE OF THE TWO CERCLA NATIONAL PRIORITIES LIST (NPL) SITES AT LEAD. THE OTHER NPL SITE IS THE SOUTHEASTERN (SE) AREA. EACH SITE CONTAINS A NUMBER OF SPECIFIC SOURCES OF CONTAMINATION. THE TWO SITES ARE IN DIFFERENT DRAINAGE BASINS, AS SHOWN IN FIGURE 2. THE DASHED LINES THAT SEPARATE THE TWO SITES IN FIGURE 2 INDICATE APPROXIMATE SURFACE WATER AND GROUNDWATER BOUNDARIES.

THE PDO AREA CONSISTS OF SHALY GROUND UNDERLAIN BY FRACTURED LIMESTONE BEDROCK, SLOPING TOWARDS THE END OF ITS DRAINAGE BASIN ON DEPOT, ROCKY SPRING LAKE. THE AREA IS A MIXTURE OF WOODED AND OPEN LAND INTERSPERSED WITH PAST AND PRESENT MILITARY USES, SUCH AS THE ONGOING SCRAP/MATERIAL REUSE OPERATIONS OF THE PDO (NOW NAMED THE DEFENSE REUTILIZATION AND MARKETING OFFICE). ADJACENT LAND USES OFF-DEPOT ARE PRIMARILY AGRICULTURAL, MAINLY DAIRY FARMS AND ORCHARDS, WITH SCATTERED SINGLE FAMILY HOMES. SHALLOW GROUNDWATER AT THE HEAD OF THE PDO AREA FLOWS WITHIN ONE BEDROCK AQUIFER TOWARD ROCKY SPRING, DISCHARGING AT THE SPRING AND POSSIBLY DIRECTLY INTO ROCKY SPRING LAKE.

#SHEA

SITE HISTORY AND ENFORCEMENT ACTIVITIES

SITE HISTORY

LEAD IS OWNED AND OPERATED BY THE ARMY. ALTHOUGH ESTABLISHED IN 1942 WITH THE MISSION OF AMMUNITION STORAGE, THE PRINCIPAL MISSIONS AT LEAD CURRENTLY INCLUDE OVERHAULING, REBUILDING, AND TESTING OF WHEELED AND TRACKED VEHICLES; THE ISSUANCE AND SHIPMENT OF CLASS III CHEMICALS AND PETROLEUM; AND THE STORAGE, MAINTENANCE, DEMILITARIZATION, AND MODIFICATION OF AMMUNITION. OPERATIONS ASSOCIATED WITH CURRENT OR PRIOR MISSIONS HAVE INCLUDED CLEANING AND STRIPPING, PLATING, LUBRICATION, DEMOLITION, CHEMICAL AND PETROLEUM TRANSFER AND STORAGE, AND WASHOUT/DEACTIVATION OF AMMUNITION. MANY OF THESE ACTIVITIES, EXCEPT THOSE ASSOCIATED WITH AMMUNITION, WERE CONDUCTED USING SIGNIFICANT QUANTITIES OF TRICHLOROETHYLENE, OTHER CHLORINATED HYDROCARBONS, HYDROCARBONS, AND OTHER SOLVENTS.

FIGURE 3 IS A MAP SHOWING LOCATIONS OF ALL KNOWN AND SUSPECTED SOURCES OF CONTAMINATION WITHIN THE PDO AREA CONTRIBUTING TO ONPOST CONTAMINATION. TABLE 1 LISTS ACTIVITIES THAT OCCURRED AT EACH OF THE POTENTIAL CONTAMINATION LOCATIONS SHOWN IN FIGURE 3.

HISTORY OF CERCLA ENFORCEMENT ACTIVITIES

THE PDO AREA WAS LISTED ON THE NATIONAL PRIORITIES LIST (NPL) ON MARCH 17, 1989 WITH A HAZARD RANKING SCORE OF 37.51. THE PDO AREA IS ALSO THE SUBJECT OF A FEDERAL FACILITY INTERAGENCY AGREEMENT (IAG) UNDER CERCLA SECTION 120, SIGNED ON 3 FEBRUARY 1989 BY THE US DEPARTMENT OF THE ARMY, US ENVIRONMENTAL PROTECTION AGENCY (EPA), REGION III, AND PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES (PADER). THE PURPOSES OF THE AGREEMENT ARE TO ENSURE THAT CONTAMINATION FROM PAST AND PRESENT ACTIVITIES IS COMPLETELY INVESTIGATED AND CLEANED UP, TO PROVIDE A FRAMEWORK AND SCHEDULE FOR CLEANUP ACTIVITIES, AND TO PROMOTE COOPERATION AND COMMUNICATION CONCERNING THE CLEANUP AMONG THE THREE PARTIES.

THE FOCUSED FEASIBILITY STUDY (FFS) AND PROPOSED PLANS (PP) FOR THE SE AREA AND THE PDO AREA AT LEAD WERE RELEASED TO THE PUBLIC ON APRIL 6, 1991. THESE TWO DOCUMENTS WERE MADE AVAILABLE TO THE PUBLIC IN BOTH THE ADMINISTRATIVE RECORD AND AN INFORMATION REPOSITORY MAINTAINED AT THE EPA DOCKET ROOM IN REGION 3, PHILADELPHIA, PA., AT BUILDING 663 AT LEAD, AND AT THE COYLE FREE LIBRARY IN CHAMBERSBURG. THE NOTICE OF AVAILABILITY FOR THESE TWO DOCUMENTS WAS PUBLISHED IN THE CHAMBERSBURG DAILY NEWSPAPER, THE PUBLIC OPINION, ON APRIL 6, 13, 20, AND 27, 1991. A PUBLIC COMMENT PERIOD WAS HELD FROM APRIL 6, 1991 TO MAY 20, 1991. IN ADDITION, A PUBLIC MEETING WAS HELD ON APRIL 14, 1991. AT THIS MEETING, THE ARMY PRESENTED AN OVERVIEW OF THE PROPOSED PLAN AND THE PREFERRED ALTERNATIVE BEING PROPOSED AS REQUIRED UNDER CERCLA. COMMUNITY ATTENDANCE WAS VERY LOW. THE RESPONSIVENESS SUMMARY OF THIS ROD PROVIDES A DISCUSSION OF PUBLIC COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD. THIS DECISION DOCUMENT PRESENTS THE SELECTED FINAL REMEDIAL ACTION FOR THE CONTAMINATION SOURCES WITHIN THE PDO AREA, CHOSEN IN ACCORDANCE WITH CERCLA, AS AMENDED BY SARA AND, TO THE EXTENT PRACTICABLE, THE NATIONAL CONTINGENCY PLAN. THE DECISION FOR THIS SITE IS BASED ON THE ADMINISTRATIVE RECORD.

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SCOPE AND ROLE OF OPERABLE UNIT

DUE TO THE COMPLEXITY OF THE CONTAMINATION PROBLEMS IN THE PDO AREA, THE ARMY HAS DIVIDED THE CLEANUP WORK INTO MANAGEABLE COMPONENTS FOR REMEDIAL ACTION CALLED "OPERABLE UNITS" (OUS). LEAD HAS A TOTAL OF FIVE OUS FOR ITS TWO NPL SITES. THE OUS FOR EACH OF LEAD'S NPL SITES, THE PDO AREA AND THE SE AREA, ARE NUMBERED SEPARATELY. THESE OUS ARE:

SOUTHEASTERN AREA

- * OPERABLE UNIT 1 K AREA CONTAMINATED SOILS
- * OPERABLE UNIT 2 SE AREA CONTAMINATION SOURCES
- * OPERABLE UNIT 3 SE AREA CONTAMINATED GROUNDWATER

PROPERTY DISPOSAL OFFICE AREA

* OPERABLE UNIT 1 - REVETMENTS, OIL BURN PIT CONTAMINATED

SOILS

* OPERABLE UNIT 2 - PDO AREA CONTAMINATED GROUNDWATER

THE OVERALL STRATEGY FOR LEAD IS TO ADDRESS THE CONTAMINATED SOIL OUS FIRST AND THE CONTAMINATED GROUNDWATER OUS IN THE FUTURE. THE CONTAMINATED SOIL OUS ARE BEING CONSIDERED FIRST BECAUSE THE SOILS ARE OFTEN LOCALIZED AND ACCESSIBLE. THEREFORE, LEAD IS TAKING IMMEDIATE ACTIONS ON THE CONTAMINATED SOILS IN THE PDO AND SE AREAS AS REQUIRED TO REDUCE THEIR DIRECT RISK TO HUMAN HEALTH AND THE ENVIRONMENT RELATIVELY QUICKLY. THESE ACTIONS WILL ALSO HELP AVERT THE CONTAMINATED SOILS FROM ACTING AS A CONTINUING SOURCE OF GROUNDWATER CONTAMINATION IN THESE AREAS.

THE OPERABLE UNIT ADDRESSED BY THIS DOCUMENT, OPERABLE UNIT ONE, IS AN ACCELERATED REMEDIAL ACTION AS REQUIRED BY THE IAG, SECTION IX.D, AND ADDRESSES THE CONTAMINATED SOILS IN THE DRUM STORAGE REVETMENTS AND FORMER OIL BURNING PIT SITE. THESE SOILS WERE STUDIED TO ASSESS WHETHER THEY POSE A THREAT TO HUMAN HEALTH AND THE ENVIRONMENT FROM POSSIBLE INGESTION OR SKIN CONTACT. THEY WERE ALSO EVALUATED TO DETERMINE WHETHER THEY ARE CURRENTLY CAUSING GROUNDWATER CONTAMINATION. PAST STUDIES HAVE SHOWN THAT THE CONTAMINATED SOILS OF THE DRUM STORAGE REVETMENTS AND OIL BURNING PIT WERE THE SOURCE OF CONTAMINATION FOR THE UNDERLYING GROUNDWATER IN THE PDO AREA AT SOME TIME INTERVAL. THE RESULTS OF THESE STUDIES FORM A BASIS FOR DECIDING WHETHER AND WHAT ACTION IS NECESSARY FOR THESE CONTAMINATED PDO AREA SOILS. THE NATURE AND EXTENT OF GROUNDWATER CONTAMINATION, BOTH ONPOST AND OFFPOST, WILL BE DISCUSSED IN FURTHER DETAIL IN SEPARATE REPORTS ISSUED UPON COMPLETION OF THE RI/FS. THIS CERCLA ACCELERATED REMEDIAL ACTION WILL BE CONSISTENT WITH ANY PLANNED FUTURE ACTIONS FOR THIS SITE TO THE EXTENT POSSIBLE.

#SC

SITE CHARACTERISTICS

THE PRIMARY CONTAMINANT SOURCES IN THE PDO AREA HAVE BEEN DETERMINED TO BE THE CONTAMINATED SOILS ASSOCIATED WITH THE OIL BURNING PIT, ALONG GEORGIA AVENUE AND THE DRUM STORAGE REVETMENTS. THESE AREAS WERE FORMERLY USED AS HAZARDOUS WASTE DISPOSAL AREAS FOR SPENT SOLVENTS SUCH AS TRICHLOROETHYLENE AND 1,1,1-TRICHLOROETHANE. THE NATURE AND EXTENT OF THESE SOURCES HAVE BEEN DEFINED IN PREVIOUS REPORTS. THE FOCUSED FEASIBLITY STUDY, WHICH EVALUATED POTENTIAL FINAL REMEDIAL MEASURES, INDICATED THAT SOIL REMEDIATION

WAS NOT REQUIRED AT THESE PDO AREA SITES. GROUNDWATER CONTAMINATION IN THE PDO AREA BEGINS AT THE FARTHEST END OF THE UPGRADIENT AREA, NEAR THE TRASH-BURNING PIT AND THE TEST TRACK, AND CONTINUES THROUGH THE PDO DRUM STORAGE REVETMENTS TO THE ROCKY SPRING SYSTEM. THE CONTAMINATED SOILS AT THESE TWO SITES WERE BELIEVED TO BE THE PRINCIPAL SOURCES OF GROUNDWATER CONTAMINATION IN THE PDO AREA. HOWEVER, STUDIES PERFORMED AT THESE TWO SITES TO DATE INDICATE THAT MOST OF THE CONTAMINATION HAS MIGRATED FROM THE SOILS DOWN TO THE BEDROCK AND THE GROUNDWATER. OFFPOST MIGRATION OF THE CONTAMINATED GROUNDWATER HAS NOT OCCURRED IN THE PDO AREA.

THE CONTAMINATED MEDIA IN THE PDO AREA IS THE SOILS. THE OIL BURNING PIT WAS FOUND TO CONTAIN SOME LOW LEVELS OF VOLATILE HALOGENATED ORGANICS (VHOS) IN THE SURFACE SOILS DURING THE RI STUDY OF THIS AREA IN 1987 (ESE, 1987A). HOWEVER, THE WESTON IN-SITU VOLATIZATION (ISV) STUDY (1989B) SHOWED NO SIGNIFICANT LEVELS OF VOLATILE ORGANICS IN THE SOILS AT THE OIL BURNING PIT. THUS, IT APPEARS THAT THE LEVELS OF VOLATILES AT THE OIL BURNING PIT SITE DECREASED BETWEEN 1987 AND 1989. TABLE 2 SUMMARIZES THE ISV STUDY ANALYTICAL DATA AT THE OIL BURNING PIT.

THE AREA SURROUNDING THE DRUM STORAGE REVETMENTS WAS FOUND TO CONTAIN SOME LOW CONCENTRATIONS OF VHOS AND CERTAIN PRIORITY POLLUTANT METALS DURING THE RI STUDY OF THE PDO AREA (ESE, 1987A). MOST VHO CONCENTRATIONS IN THE SOILS WERE BELOW 1 PARTS PER MILLION (PPM); THE HIGHEST WAS 6.76 PPM FOR TRICHLOROETHYLENE. VHOS IDENTIFIED IN THE PDO DRUM STORAGE REVETMENT AREA INCLUDED 1,1-DICHLOROETHYLENE (11DCE), 1,1-DICHLOROETHANE, CIS/TRANS-1,2-DICHLOROETHYLENE (T12DCE), 1,1,1-TRICHLOROETHANE (111TCE), TRICHLOROETHYLENE (TRCLE), AND TETRACHLOROETHYLENE (TCLEE). VARIOUS METALS HAVE BEEN DETECTED IN THE SOILS IN THIS AREA. HOWEVER, GROUNDWATER CONTAMINATION WITH METALS IS MINIMAL, PROBABLY DUE TO THE RETENTIVE PROPERTIES OF THE CLAYEY SOILS WITH RESPECT TO THE METALS. DUE TO THE LIMESTONE GEOLOGY IN THE PDO AREA, THERE APPEARS TO BE NATURAL STABILIZATION OCCURRING WITH RESPECT TO THE METALS. THE WESTON ISV STUDY (OCTOBER 1989B) INDICATED THAT THE MAJORITY OF THE CONTAMINATION CAN BE FOUND IN THE BEDROCK OF THE REVETMENT AREA. TABLE 3 SUMMARIZES THE SOIL SAMPLE DATA FROM THE PDO REVETMENTS, GENERATED AS PART OF THE ISV STUDY.

HIGH LEVELS OF ORGANICS HAVE BEEN FOUND IN WELLS IN THE VICINITY OF THE OIL BURNING PIT AND THE DRUM STORAGE REVETMENTS, AND IN THE GROUNDWATER DISCHARGING TO THE SURFACE WATERS OF THE ROCKY SPRING SYSTEM. GROUNDWATER IN THE PDO AREA IS CONTAMINATED WITH THE SAME ORGANIC COMPOUNDS AS THE SOILS WITH CONCENTRATIONS UP TO 1,000 PARTS PER BILLION (PPB).

DETAILS ON THE TOXICITY, MOBILITY, AND CARCINOGENICITY OF THOSE CONTAMINANTS ARE FOUND IN THE ENDANGERMENT ASSESSMENT (EA) FOR THE PDO AREA REPORT (ESE, 1988). THE EA ALSO EVALUATED THE FOLLOWING KNOWN OR POTENTIAL ROUTES OF MIGRATION TO LEAD WORKERS AND OFF-POST RESIDENTS: GROUNDWATER TO SURFACE WATER, SOIL TO AIR, SOIL TO SURFACE WATER, SURFACE WATER TO AIR, AND GROUNDWATER TO AIR. THE EA CONCLUDED THAT CONTAMINATION FROM THE PDO AREA IS FOUND IN THE SURFACE WATER OF, BUT NOT IN THE GROUNDWATER BELOW, ROCKY SPRING LAKE. THIS FACT, COMBINED WITH THE KNOWN GROUNDWATER FLOW PATTERN TOWARD THE ROCKY SPRING SYSTEM AND THE CORRELATION OF SURFACE WATER AND GROUNDWATER CONTAMINATION CONCENTRATIONS, STRONGLY SUGGESTS THAT CONTAMINATED GROUNDWATER DISCHARGES TO THE ROCKY SPRINGS SURFACE WATER SYSTEM.

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SUMMARY OF SITE RISKS

THE PDO AREA EA (ESE, 1988A) EVALUATED POTENTIAL HEALTH RISKS FOR WORKERS AND OFFPOST RESIDENTS BY ACTIVITIES THAT WOULD BRING THEM INTO CONTACT WITH THE CONTAMINATED SOILS FROM THE OIL BURNING PIT AND THE PDO DRUM STORAGE REVETMENTS. SKIN ABSORPTION, INCIDENTAL INGESTION OF SOILS, AND INHALATION OF VAPORS FROM CONTAMINATED SOILS WERE CONSIDERED TO BE POSSIBLE CONCURRENT EXPOSURES FOR ONSITE WORKERS. ACCESS ONTO THE INSTALLATION IS RESTRICTED BY FENCES WHICH LIMITS THE POTENTIAL FOR EXPOSURE TO NON-LEAD PERSONNEL.

THE EA IDENTIFIED EIGHT INDICATOR CHEMICALS AS THE CONTAMINANTS OF CONCERN IN THE PDO AREA, AS FOLLOWS: CHLOROFORM (CHCL3), 1,1-DICHLOROETHANE (11DCLE), 1,1,1-TRICHLOROETHANE (111TCE), 1,1,2-TRICHLOROETHANE (112TCE), CIS/TRANS-1,2-DICHLOROETHYLENE (C/T12DCE), 1,1-DICHLOROETHYLENE (11DCE), TRICHLOROETHYLENE (TRCLE), AND TETRACHLOROETHYLENE (TCLEE). THESE COMPOUNDS, ALL VOLATILE CHLORINATED HYDROCARBONS, REPRESENT THE MOST MOBILE, TOXIC, AND WIDESPREAD CONTAMINANTS DETECTED IN THE PDO AREA.

KEY EXPOSURE ROUTES EVALUATED FOR THE PDO AREA WERE:

- 1. EXPOSURE TO CONTAMINANTS BY USE OF ROCKY SPRING SURFACE WATERS;
- 2. DIRECT SKIN CONTACT WITH CONTAMINATED SOILS;
- 3. INCIDENTAL INGESTION OF CONTAMINATED SOILS;
- 4. INHALATION OF CONTAMINANT VAPORS IN AMBIENT AIR; AND,
- 5. EXPOSURE OF AQUATIC LIFE TO CONTAMINATED SURFACE WATER.

TOTAL CARCINOGENIC (CANCER-CAUSING) RISK FOR WORKERS IN THE OIL BURNING PIT WAS ESTIMATED TO BE 2.4 X (10-7), BELOW THE EPA TARGET RISK LEVEL OF (10-6). (NOTE THAT (10-7) IS LESS THAN (10-6). TOTAL CARCINOGENIC RISK FOR WORKERS IN THE DRUM STORAGE REVETMENT AREA WAS 2.6 X (10-6), NEAR THE EPA TARGET RISK LEVEL. OFFPOST RESIDENTS DOWNWIND OF THE OIL BURNING PIT AND THE DRUM STORAGE REVETMENTS WOULD BE EXPOSED TO CARCINOGENIC RISKS ON THE ORDER OF 5.8 X (10-10) AND 4.4 X (10-9) RESPECTIVELY, WHICH ARE VERY LOW LEVELS. EPA'S ACCEPTABLE RANGE FOR RISK LEVELS IS (10-4) TO (10-6) WITH THE TARGET RISK LEVEL DESIGNATED AS (10-6). A CANCER RISK OF (10-6) MEANS THAT ONE ADDITIONAL PERSON OUT OF A MILLION IS AT RISK OF DEVELOPING CANCER IF THE SITE IS NOT CLEANED UP.

THE NONCARCINOGENIC HEALTH HAZARD INDEX (HI) REPRESENTS THE SUM OF THE CALCULATED EXPOSURE LEVELS TO THE ACCEPTABLE EXPOSURE CONCENTRATIONS FOR ALL CHEMICALS UNDER CONSIDERATION. WHEN THE HI EXCEEDS UNITY (GT 1), THERE MAY BE CONCERN FOR A POTENTIAL HEALTH RISK. THE NONCARCINOGENIC HI FOR THE DRUM STORAGE REVETMENTS INDICATES THAT, EVEN UNDER THE HIGHEST CONCENTRATIONS DETECTED IN THE SOILS, A SIGNIFICANT HEALTH HAZARD TO WORKERS AND RESIDENTS DOES NOT EXIST. LIKEWISE, THE NONCARCINOGENIC HIS FOR THE OIL-BURNING PIT ARE ALL WELL BELOW UNITY, INDICATING LOW POTENTIAL FOR ADVERSE HEALTH EFFECTS TO WORKERS AND DOWNWIND RESIDENTS. EVEN THE NONCARCINOGENIC HI VALUES REPRESENTING THE SUM TOTAL OF ALL CONTAMINANTS FOR ALL EXPOSURE ROUTES ARE SEVERAL ORDERS OF MAGNITUDE BELOW UNITY, THE HIGHEST VALUE BEING 4.5 X (10-3) (=.0045). TABLE 4 SUMMARIZES THE EA ASSESSMENTS OF THE HEALTH RISKS FOR PDO AREA CONTAMINANTS.

BASED ON THE EA FOR THE PDO AREA, THE LEVELS OF SOIL CONTAMINANTS AT THE DRUM STORAGE REVETMENTS AND OIL BURNING PIT DO NOT POSE A SIGNIFICANT HAZARD TO LEAD PERSONNEL ENGAGED IN ACTIVITIES AROUND THE AREAS OF CONTAMINATION, NOR TO OFFPOST RESIDENTS. BECAUSE OF THE LOW CARCINOGENIC AND NONCARCINOGENIC RISKS AND THE FACT THAT A MAJORITY OF THE SOIL CONTAMINATION HAS ALREADY MOVED DOWN INTO THE CLAYS AND SILTS FOUND WITHIN THE UNDERLYING FRACTURED BEDROCK AND THE GROUNDWATER (ESE, 1987A AND 1988A) (WESTON 1989B), REMEDIATION OF THE SURFACE SOILS IS NOT RECOMMENDED. NO REMEDIATION OF SOILS IS NECESSARY TO ENSURE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT.

#DNAA

DESCRIPTION OF THE "NO ACTION" ALTERNATIVE

THE FINDING THAT "NO ACTION" IS NECESSARY TO ENSURE ADEQUATE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT IS SUPPORTED BY THE EA AND THE VARIOUS STUDIES ALREADY MENTIONED WHICH SHOWED LITTLE OR NO CONCENTRATION OF CONTAMINANTS IN THE SOILS OF THE DRUM STORAGE REVETMENTS AND OIL BURNING PIT. THE STUDIES INDICATE THAT MOST OF THE CONTAMINATION FROM THE SOILS HAS ALREADY MIGRATED INTO THE UNDERLYING BEDROCK AND GROUNDWATER. THEREFORE, SURFACE SOIL REMEDIATION WOULD NOT LESSEN ANY ONGOING GROUNDWATER CONTAMINATION AND IS NOT NECESSARY TO LESSEN EXPOSURE RISKS TO ANY POPULATIONS, SINCE THE EXPOSURE RISKS ARE ALREADY WITHIN ACCEPTABLE LIMITS.

SELECTION OF THIS ACTION DOES NOT EXPRESSLY OR OTHERWISE WAIVE THE PENNSYLVANIA ARAR FOR GROUNDWATER.

EVALUATION OF THE RISKS TO GROUNDWATER POSED BY CONTAMINANTS ASSOCIATED WITH THE BEDROCK WILL BE ADDRESSED IN OPERABLE UNIT TWO.

NO MORE WORK IN CONNECTION WITH THE SOILS WILL BE PERFORMED AT THE OIL BURNING PIT AND DRUM STORAGE REVETMENTS.

#ESC

EXPLANATION OF SIGNIFICANT CHANGES

"NO ACTION" WAS THE SELECTED REMEDY IN BOTH THE FOCUSED FEASIBILITY STUDY (FFS) AND PROPOSED PLAN (PP) FOR ACCELERATED REMEDIAL ACTION AT THE DRUM STORAGE REVETMENTS AND OIL BURNING PIT IN THE PDO AREA. THERE HAS BEEN NO SIGNIFICANT CHANGE IN THE SELECTED REMEDY FROM THE TIME THE FFS AND PP WERE RELEASED FOR PUBLIC COMMENT TO THE FINAL SELECTION OF THE REMEDY.